

10/521182

Rec'd PCT/PTO 14 JAN 2005

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau

(43) International Publication Date  
29 January 2004 (29.01.2004)

PCT

(10) International Publication Number  
WO 2004/010374 A2(51) International Patent Classification<sup>7</sup>:

G06T

(72) Inventors; and

(21) International Application Number:

PCT/IB2003/002795

(75) Inventors/Applicants (for US only): KAUS, Michael [DE/DE]; Philips Intellectual Property &amp; Standards GmbH, Weisshausstr. 2, 52066 Aachen (DE). WEESE, Jürgen [DE/DE]; Philips Intellectual Property &amp; Standards GmbH, Weisshausstr. 2, 52066 Aachen (DE).

(22) International Filing Date: 15 July 2003 (15.07.2003)

(25) Filing Language:

English

(74) Agent: MEYER, Michael; Philips Intellectual Property &amp; Standards GmbH, Weisshausstr. 2, 52066 Aachen (DE).

(26) Publication Language:

English

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(30) Priority Data:

02016060.2 19 July 2002 (19.07.2002) EP

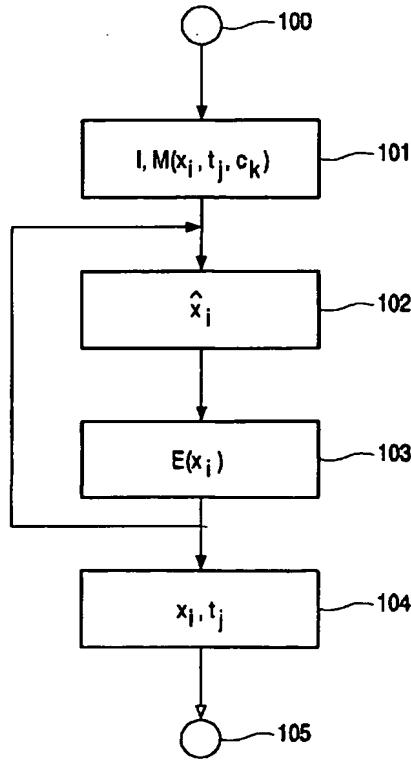
(71) Applicant (for DE only): PHILIPS INTELLECTUAL PROPERTY &amp; STANDARDS GMBH [DE/DE]; Stein-damm 94, 20099 Hamburg (DE).

(71) Applicant (for all designated States except DE, US): KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

*[Continued on next page]*

(54) Title: SIMULTANEOUS SEGMENTATION OF MULTIPLE OR COMPOSED OBJECTS BY MESH ADAPTATION



**(57) Abstract:** Deformable models are used for the segmentation of structures in 3D images. The basic principle of such methods consists of the adaptation of flexible meshes to the image. However, the simultaneous segmentation of multiple or composed objects often causes problems in that spatial relationships between the objects are violated, or that meshes are intersecting each other. According to the present invention, a priori knowledge about spatial relationships between objects is introduced into the shaped model. This allows to maintain spatial relationships between the objects and to avoid intersecting meshes.

WO 2004/010374 A2